

In the Claims

1-42. (Canceled)

43. (Previously Presented) A method of screening candidate modulator compounds of a Protein Phosphatase 2A (PP2A) phosphatase comprising the steps of:

- a) contacting PP2A/B γ or a PP2A phosphatase comprising a PP2A/B γ subunit with the candidate modulator compound; and
- b) testing the activity of PP2A/B γ or of the PP2A phosphatase comprising a PP2A/B γ subunit in the presence of said candidate compound,

wherein a difference in the activity of PP2A/B γ or of the PP2A phosphatase comprising a PP2A/B γ subunit in the presence of said compound in comparison to the activity in the absence of said compound indicates that the compound is a modulator of PP2A/B γ or of the PP2A phosphatase comprising a PP2A/B γ subunit.

44. (Previously Presented) The method according to claim 43, wherein a PP2A/B γ subunit is contacted with the candidate modulator compound.

45. (Previously Presented) The method according to claim 43, wherein said candidate modulator compound is selected from the group consisting of a natural ligand, a small molecule, an antibody, an antisense RNA, an aptamer and a short interfering RNA.

46-62. (Cancelled)

63. (New) The method according to any of claims 43, wherein said activity is assessed by measuring its phosphotyrosine phosphatase activity of said PP2A phosphatase comprising a PP2A/B γ subunit.

64. (New) The method according to any of claims 44, wherein said activity is assessed by measuring its phosphotyrosine phosphatase activity of said PP2A phosphatase comprising a PP2A/ $\beta\gamma$ subunit.

65. (New) The method according to any of claims 45, wherein said activity is assessed by measuring its phosphotyrosine phosphatase activity of said PP2A phosphatase comprising a PP2A/ $\beta\gamma$ subunit.

66. (New) The method according to any of claims 43, wherein said activity is assessed by measuring its serine/threonine protein phosphatase activity of said PP2A phosphatase comprising a PP2A/ $\beta\gamma$ subunit.

67. (New) The method according to any of claims 44, wherein said activity is assessed by measuring its serine/threonine protein phosphatase activity of said PP2A phosphatase comprising a PP2A/ $\beta\gamma$ subunit.

68. (New) The method according to any of claims 45, wherein said activity is assessed by measuring its serine/threonine protein phosphatase activity of said PP2A phosphatase comprising a PP2A/ $\beta\gamma$ subunit.

69. (New) The method according to any of claims 43, wherein said activity is assessed by measuring the binding of PP2A/ $\beta\gamma$ to KCNQ2 polypeptides.

70. (New) The method according to any of claims 44, wherein said activity is assessed by measuring the binding of PP2A/ $\beta\gamma$ to KCNQ2 polypeptides.

71. (New) The method according to any of claims 45, wherein said activity is assessed by measuring the binding of PP2A/ $\beta\gamma$ to KCNQ2 polypeptides.

72. (New) The method according to any of claims 43, wherein said activity is assessed by measuring the binding of PP2A/ $\beta\gamma$ to the catalytic subunit of PP2A or to the scaffolding subunit of PP2A.

73. (New) The method according to any of claims 44, wherein said activity is assessed by measuring the binding of PP2A/ $\beta\gamma$ to the catalytic subunit of PP2A or to the scaffolding subunit of PP2A.

74. (New) The method according to any of claims 45, wherein said activity is assessed by measuring the binding of PP2A/ $\beta\gamma$ to the catalytic subunit of PP2A or to the scaffolding subunit of PP2A.

75. (New) The method according to claim 69, wherein said binding of PP2A/ $\beta\gamma$ to KCNQ2 polypeptides is measured by performing a yeast mating test or a solid phase overlay assay.

76. (New) The method according to claim 70, wherein said binding of PP2A/ $\beta\gamma$ to KCNQ2 polypeptides is measured by performing a yeast mating test or a solid phase overlay assay.

77. (New) The method according to claim 71, wherein said binding of PP2A/ $\beta\gamma$ to KCNQ2 polypeptides is measured by performing a yeast mating test or a solid phase overlay assay.

78. (New) The method according to claim 72, wherein said binding of PP2A/ $\beta\gamma$ to KCNQ2 polypeptides is measured by performing a yeast mating test or a solid phase overlay assay.

79. (New) The method according to claim 73, wherein said binding of PP2A/ $\beta\gamma$ to KCNQ2 polypeptides is measured by performing a yeast mating test or a solid phase overlay assay.

80. (New) The method according to claim 74, wherein said binding of PP2A/ $\beta\gamma$ to KCNQ2 polypeptides is measured by performing a yeast mating test or a solid phase overlay assay.

81. (New) The method according to claim 45, wherein said modulator is a candidate drug for the treatment of a mental disorder.

82. (New) The method according to claim 81, wherein said mental disorder is selected from the group consisting of bipolar disorder, schizophrenia and depression.